

551,524

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
14 October 2004 (14.10.2004)

PCT

(10) International Publication Number
WO 2004/087798 A1

- (51) International Patent Classification⁷: **C08J 9/00**, 9/16 // C08L 25/04
- (21) International Application Number: PCT/EP2004/002840
- (22) International Filing Date: 11 March 2004 (11.03.2004)
- (25) Filing Language: English
- (26) Publication Language: English
- (30) Priority Data: MI2003A000627 31 March 2003 (31.03.2003) IT
- (71) Applicant (for all designated States except US): **POLIMERI EUROPA S.P.A.** [IT/IT]; Via E. Fermi, 4, I-72100 Brindisi (IT).
- (72) Inventors; and
- (75) Inventors/Applicants (for US only): **PONTICIELLO, Antonio** [IT/IT]; Via S. Lorenzo, 14, I-37060 Mozzecane (IT). **SIMONELLI, Alessandra** [IT/IT]; Via Martiri d'Italia, 63, I-10014 Caluso (IT). **ZAMPERLIN, Loris** [IT/IT]; Via Ugo Foscolo 27/1, I-46047 Porto Mantovano (IT).
- (74) Agents: **DE GREGORI, Antonella** et al.; Ing. Barzanó & Zanardo Milano S.p.A., Via Borgonuovo, 10, I-20121 Milan (IT).
- (81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
- (84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).
- Published:**
— with international search report
- For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.*

(54) Title: EXPANDABLE VINYLAROMATIC POLYMERS AND PROCESS FOR THEIR PREPARATION

(57) Abstract: Expandable vinylaromatic polymers which comprise: a) a matrix obtained by polymerizing 50-100 % by weight of one or more vinylaromatic monomers and 0-50 % by weight of a copolymerizable monomer; b) 1-10 % by weight, calculated with respect to the polymer (a) of an expanding agent englobed in the polymeric matrix; c) 0.01-20 % by weight, calculated with respect to the polymer (a) of carbon black distributed in the polymeric matrix having an average diameter ranging from 30 to 2000 nm, a surface area ranging from 5 to 40 m²/g, a sulfur content ranging from 0.1 to 2000 ppm and an ash content ranging from 0.001 to 1 %.

WO 2004/087798 A1